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WORLD INTELLECTUAL PROPERTY ORGANIZATION



International Bureau INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7: (11) International Publication Number: WO 00/40988 G01R 33/465, G01N 33/48 A1 (43) International Publication Date: 13 July 2000 (13.07.00)

(21) International Application Number:

PCT/GB99/04410

(22) International Filing Date:

23 December 1999 (23.12.99)

(30) Priority Data:

9828852.5 9918096.0

30 December 1998 (30.12.98) GB 2 August 1999 (02.08.99)

GB

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(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

(54) Title: NMR SPECTROSCOPIC IN VITRO ASSAY USING HYPERPOLARIZATION

13C compound environmental 13C compound spectra #3 environmental SUBCELLULAR spectra #4 SURFACE BOUND environmental spectra #2 **INTRACELLULAR** 13C compound original spectra #1 **EXTRACELLULAR**

(57) Abstract

An in vitro assay method which comprises the use of an assay reagent containing at least one NMR active nucleus, and hyperpolarising at least one NMR active nucleus of the assay reagent; and analysing the assay reagent and/or the assay by NMR spectroscopy and/or NMR imaging. The assay reagent may contain an artificially high concentration of an NMR active nucleus.